

# ABSTRACT

The present invention provides a gene expression system comprising: a) a self-replicating expression vector of flavivirus origin which includes the flavivirus 5' untranslated region (UTR), at least a portion of the 5' coding region for flavivirus core protein, the nucleotide sequence coding for the flavivirus non-structural proteins, and the complete or most of the 3' terminal sequence of the flavivirus 3'UTR, required for self-replication of flavivirus genomic material, which vector is adapted to receive at least a nucleotide sequence without disrupting its replication capabilities; and b) at least a second vector that is capable of expressing flavivirus structural protein(s) and any other proteins required for packaging of the self-replicating expression vector into flavivirus viral particles which vector is engineered to prevent recombination with the self-replicating vector when in its presence.